WHAT IS CLAIMED IS:

1. A method for expanding a subject's population of insulin-producing cells, comprising administering an effective amount of a TGF-α polypeptide (SEQ ID NO:1), a TGF-α-related polypeptide, a TGF-α57 polypeptide (SEQ ID NO:3), a fragment thereof, or a mimetic thereof.

2. The method of claim 1, wherein the TGF-α polypeptide, TGF-α–related polypeptide, TGF-α57 polypeptide, fragment thereof, or mimetic thereof is pegylated.

3. The method of claim 1, wherein the polypeptide is TGF-α.

4. The method of claim 1, wherein the polypeptide is a TGF-α-related polypeptide.

5. The method of claim 4, wherein the TGF-α-related polypeptide is: vaccinia growth factor, amphiregulin precursor, betacellulin precursor, betacellulin, heparin binding EGF-like growth factor, epiregulin (rodents), HUS 19878, myxomavirus growth factor (MGF), Shope fibroma virus growth factor (SFGF), or schwannoma derived growth factor.

6. The method of claim 5, wherein the TGF-α-related polypeptide is pegylated.

7. The method of claim 5, wherein the TGF-α-related polypeptide is betacellulin.

8. The method of claim 7, wherein the betacellulin is pegylated.

9. The method of claim 1, wherein the insulin-producing cells are pancreatic stem cells.

10. A method for treating Type I or Type II diabetes comprising administering an effective amount of a combination consisting of:
    a) a TGF-α polypeptide (SEQ ID NO:1), a fragment thereof, or a mimetic thereof; and
    b) a TGF-α-related polypeptide.

11. The method of claim 10, wherein the TGF-α related polypeptide is: vaccinia growth factor, amphiregulin precursor, betacellulin precursor, betacellulin, heparin binding EGF-like growth factor, epiregulin (rodents), HUS 19878, myxomavirus growth factor (MGF), Shope fibroma virus growth factor (SFGF), or schwannoma derived growth factor.

12. The method of claim 11, wherein the TGF-α-related polypeptide is pegylated.

13. The method of claim 11, wherein the TGF-α-related polypeptide is betacellulin.

14. The method of claim 13, wherein the betacellulin is pegylated.

15. The method of claim 10, wherein the treating includes expanding a subject's population of insulin-producing cells.

16. The method of claim 15, wherein the insulin-producing cells are pancreatic stem cells.